

**AMENDMENTS TO THE CLAIMS**

Claims 1 and 2 cancelled.

3. (New) A method for treating waste water by a membrane bioreactor comprising the steps:

- a) treating waste water in a bioreactor to produce excess biological sludge and treated water components;
- b) extracting the biological sludge from the bioreactor;
- c) causing contact between the biological sludge and dewatered effluent to form two resulting products;
- d) recycling a first product of the contacting biological sludge and dewatered effluent;
- e) the first product containing polyelectrolyte loaded sludge;
- f) continually adding polyelectrolyte to the polyelectrolyte loaded sludge during dewatering to separately form dewatered sludge and the dewatered effluent of step c);
- g) extracting, as a second product of step c), polyelectrolyte free effluent;
- h) recycling the polyelectrolyte free effluent to the bioreactor.

4. (New) The method as claimed in claim 3, wherein the biological sludge is separated from the liquid effluent after being selectively subjected to microfiltration or ultrafiltration, the cutoff threshold of either being lower than the molecular weight of the polyelectrolytes used during dewatering